part of the operator and, because the operator is human, the operator may forget to send the new link active schedule to each backup LAS or may not know which devices within the system are designated as backup LAS devices.

Similarly, while Burns generally discloses the presence of both master and backup LAS devices within a process control system, Burns does not disclose or suggest any method or system that automatically transmits a link active schedule between the different LAS devices nor does Burns recognize any need to do so. Burns certainly does not disclose or suggest automatically providing a link active schedule to a backup LAS from a master LAS when the link active schedule is received by the master LAS. Instead, just like the AAPA, Burns relies on the operator to send a new link active schedule to each backup LAS.

Likewise, McLaughlin fails to disclose or suggest a system or a method that automatically transmits a link active schedule from a master LAS to a backup LAS, much less one that does so upon receipt of the link active schedule by the master LAS. Instead, the McLaughlin system merely transmits process control data between process controllers connected via a separate redundant bus. McLaughlin does not mention or in any manner deal with communications between LAS devices, which are different devices than process controllers. Furthermore, McLaughlin does not indicate how the redundant controller system therein may be applicable to devices, such as LAS devices, that are not connected by a separate redundant bus. McLaughlin also fails to provide any reason or motivation for sending a link active schedule between redundant devices. In fact, the controllers of the McLaughlin patent presumably have absolute control over the bus to which they are connected and, thus, do not need or use a link active schedule.

More particularly, the McLaughlin system only sends process control data over the separate redundant bus disposed between a primary and a secondary controller and does not provide other types of data, such as link active schedule data, via a redundant or any other communication link. In fact, as noted above, the McLaughlin system does not appear to use a link active schedule and, thus, there is no need to send a link active schedule between the controllers of the McLaughlin device. Even if the controllers of the McLaughlin device use link active schedules (which they apparently do not), McLaughlin still fails to suggest or provide any motivation for sending this information over the redundant link, because a link active schedule is not process data that changes as a result of the operation of the process control system, which is the only type of data that is sent between the redundant controllers of the McLaughlin system.

- 3 -

Moreover, even if the McLaughlin patent did disclose a system that sent a link active schedule between different devices (which it does not), the McLaughlin methodology is not the same as that recited by each of the pending claims. In particular, as described at column 1, lines 29-36 of McLaughlin, the McLaughlin devices perform backup communications on a periodic basis. To the contrary, the system and method recited by each of the pending claims perform transmission of the link active schedule from a master LAS to a backup LAS upon receipt of the link active schedule by the master LAS, which is different than providing this data in a periodic manner. Specifically, the McLaughlin system has the potential to fail in its purpose of backing up the secondary controller if the new database contents of the primary controller are changed and the primary controller fails prior to the scheduled periodic backup procedure. This problem is reduced or eliminated in the recited system and method which assure that the new link active schedule is sent to the backup LAS device upon receipt of the new link active schedule at the master LAS, not at some periodically scheduled time.

Likewise, neither Shapiro nor Chrabaszcz discloses an apparatus or a method for use in a process control system having a master LAS that provides a new link active schedule to a backup LAS by automatically sending the new link active schedule from the master LAS to the backup LAS upon receipt of the new link active schedule by the master LAS, nor has the examiner cited these patents as such.

It is clear that the prior art must make a suggestion of or provide an incentive for a claimed combination of elements to establish a *prima facie* of obviousness. *See, In re Oetiker*, 24 U.S.P.Q.2d 1443, 1446 (Fed. Cir. 1992); *Ex parte Clapp*, 227 U.S.P.Q. 972, 973 (Bd. Pat. App. 1985). This principle holds true even if the applied art could be modified to produce the invention recited by the pending claims. *See, In re Mills*, 16 U.S.P.Q.2d 1430, 1432 (Fed. Cir. 1990); *In re Gordon*, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984) ("The mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification.") Because none of AAPA, Burns, McLaughlin, Shapiro or Chrabaszcz discloses or even suggests the desirability of automatically providing a link active schedule from a master LAS to a backup LAS, or one that does so upon receipt of the link active schedule at the master LAS, it follows that no combination of this art renders any of the pending claims obvious.

Applicants additionally respectfully traverse the rejection of dependent claims 3-4, 9, 13, 22, 24, and 26 as obvious in view of various combinations of AAPA, Burns, McLaughlin and Shapiro. Each of the claims 3-4, 9, 13, 22, 24, 26 recites a system or method that detects

- 4 -

and/or notifies a user when the backup LAS is unavailable or incapable of storing the link active schedule (claims 3-4, 13, 22, 24, 26) or a method that notifies a user when the backup LAS is no longer communicating on the databus (claim 9).

None of the cited art discloses a system or a method that detects or notifies a user when a backup LAS is unavailable or incapable of storing a link active schedule (claims 3-4, 13, 22, 24, 26) nor does any of the cited art notify a user that a backup LAS is no longer communicating on a databus (claim 9).

While Shapiro discloses a method of notifying a user of a general failure in a computer system, Shapiro does not teach the use of an LAS or a link active schedule and, consequently, provides no motivation to detect or notify a user when a backup LAS is in any particular condition, much less when the backup LAS is unavailable or incapable of storing a link active schedule or when a backup LAS is no longer communicating on a databus. Similarly, while both AAPA and Burns include one or more backup LAS's, neither AAPA or Burns suggests a system or method that detects or notifies a user when a backup LAS is unavailable or incapable of storing a link active schedule nor does AAPA or Burns disclose notifying a user that a backup LAS is no longer communicating on a databus.

The McLaughlin system is specific to process controllers and does not disclose an LAS or a link active schedule of any kind. As such, McLaughlin fails to suggest or disclose a system or method that detects or notifies a user when a backup LAS is unavailable or incapable of storing a link active schedule. Likewise McLaughlin fails to divulge any motivation for notifying a user that a backup LAS is no longer communicating on a databus.

It is clear that the prior art must make a suggestion of or provide an incentive for a claimed combination of elements to establish a *prima facie* of obviousness. *See, In re Oetiker*, 24 U.S.P.Q.2d 1443, 1446 (Fed. Cir. 1992); *Ex parte Clapp*, 227 U.S.P.Q. 972, 973 (Bd. Pat. App. 1985). This principle holds true even if the applied art could be modified to produce the invention recited by the pending claims. *See, In re Mills*, 16 U.S.P.Q.2d 1430, 1432 (Fed. Cir. 1990); *In re Gordon*, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984) ("The mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification.") Because none of AAPA, Burns, McLaughlin, or Shapiro discloses or even suggests a system or a method that detects or notifies a user when a backup LAS is unavailable or incapable of storing a link active schedule or that notifies a user that a backup LAS is no longer communicating on a databus,

it follows that no combination of this art renders any of the claims 3-4, 9, 13, 22, 24, and 26 obvious.

Applicants additionally respectfully traverse the rejection of dependent claims 2, 8, 11-12, and 20 as obvious in view of various combinations of AAPA, Burns, McLaughlin and Chrabaszcz. Each of claims 2, 11-12, and 20 recites a system or a method that stores a list of backup LAS devices in a master LAS, that sends a link active schedule to a backup LAS device in a list of backup LAS devices and/or that automatically sends a list of backup LAS devices to a backup LAS. Claim 8 recites recognizing that a backup LAS is no longer communicating on a databus by comparing a live list to a backup list.

None of the cited art discloses a system or a method that stores a list of backup LAS devices in a master LAS, that sends a link active schedule to a backup LAS device in a list of backup LAS devices and/or that automatically sends a list of backup LAS devices to a backup LAS. Furthermore, none of the cited art discloses recognizing that a backup LAS is no longer communicating on a databus by comparing a live list to a backup list.

In particular, neither McLaughlin nor Chrabaszcz discusses or discloses a link active schedule or an LAS device of any kind and, consequently, can provide no motivation to store a list of backup LAS devices in a master LAS, to send a link active schedule to a backup LAS device in the list of backup LAS devices or to automatically send a list of backup LAS devices to a backup LAS. While both AAPA and Burns discuss a link active schedule and an LAS, they do not suggest a system or a method that stores a list of backup LAS devices in a master LAS, that sends a link active schedule to backup LAS devices in a list of backup LAS devices, or that automatically sends a list of backup LAS devices to a backup LAS. Additionally AAPA and Burns do not suggest that it is, in any way, desirable to recognize that the backup LAS is no longer communicating on the databus by comparing a live list to a backup list.
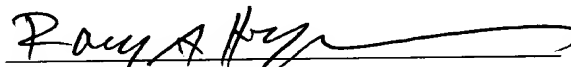
It is clear that the prior art must make a suggestion of or provide an incentive for a claimed combination of elements to establish a *prima facie* of obviousness. *See, In re Oetiker*, 24 U.S.P.Q.2d 1443, 1446 (Fed. Cir. 1992); *Ex parte Clapp*, 227 U.S.P.Q. 972, 973 (Bd. Pat. App. 1985). This principle holds true even if the applied art could be modified to produce the invention recited by the pending claims. *See, In re Mills*, 16 U.S.P.Q.2d 1430, 1432 (Fed. Cir. 1990); *In re Gordon*, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984) ("The mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification.") Because none of AAPA,

- 6 -

Burns, McLaughlin, or Chrabaszcz discloses or suggests a system or method that stores a list of backup LAS devices in a master LAS, that sends a link active schedule to backup LAS devices in a list of backup LAS devices, that automatically sends the list of backup LAS devices to the backup LAS, or that recognizes that the backup LAS is no longer communicating on the databus by comparing a live list to a backup list, it follows that no combination of this art renders any of claims 2, 8, 11-12, and 20 obvious.

For the foregoing reasons, reconsideration and withdrawal of the rejections of the claims and allowance thereof are respectfully requested. Should the examiner wish to discuss the foregoing, or any matter of form, in an effort to advance this application towards allowance, the examiner is urged to telephone the undersigned at the indicated number.

Respectfully submitted,

By: 

Roger A. Heppermann
Reg. No. 37,641

MARSHALL, GERSTEIN & BORUN
6300 Sears Tower
233 South Wacker Drive
Chicago, Illinois 60606-6357
Tel.: (312) 474-6300
Fax: (312) 474-0448

December 24, 2002

## MARKED-UP VERSION OF SPECIFICATION
## SHOWING CHANGES BEING MADE

**In The Specification:**

Please delete the paragraph starting on page 17, line 12 and ending on page 17, line 19 of the specification as originally filed and replace it with the following paragraph:

    --     The master LAS devices, for example, the I/O devices 28, 30 are preferably configured to automatically store a copy of the most current link active schedules in one or more of the backup LAS devices, such as devices 32, 38, and 42 of Fig. 1. This storage may be accomplished with reference to a backup LAS list and the live list that are stored in the master LAS devices. In particular, a user or system designer stores a backup LAS list, which identifies all of the backup LAS devices on a bus, in the master LAS at the time the control system is first put into operation. <u>At the time the master LAS receives a backup LAS list, the master LAS may automatically send the list of backup link active scheduler devices to the backup link active scheduler.</u> --
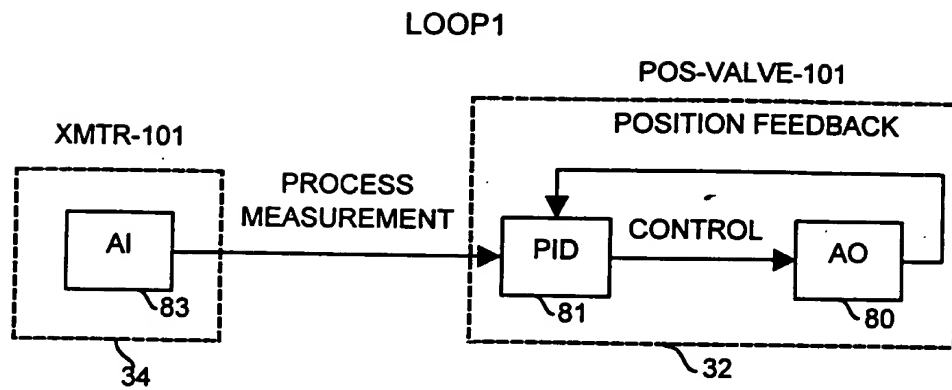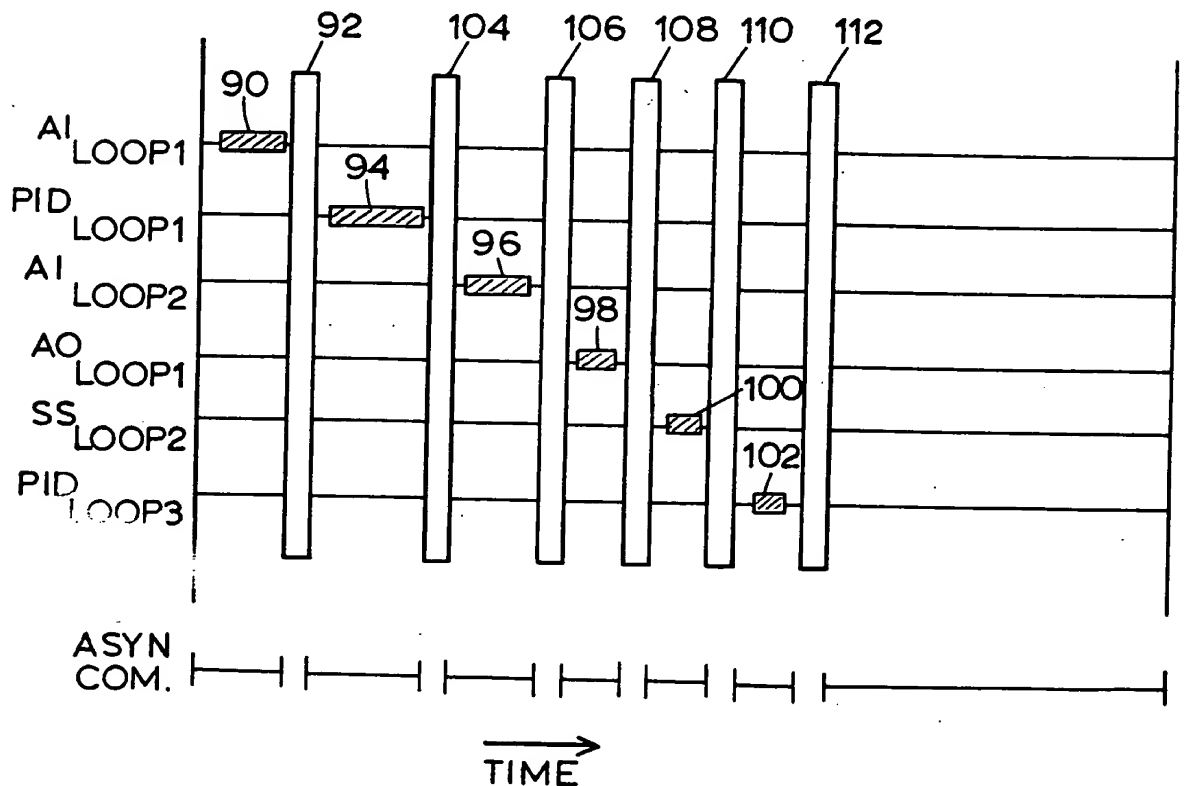
LOOP1

POS-VALVE-101

XMTR-101

POSITION FEEDBACK

PROCESS
MEASUREMENT

AI
83

PID
81

CONTROL

AO
80

34

32

FIG. 3

90  92  104  106  108  110  112

AI
LOOP1

PID
LOOP1
94

AI
LOOP2
96

AO
LOOP1
98

SS
LOOP2
100

PID
LOOP3
102

ASYN
COM.

TIME

FIG. 4